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MISSILE FACILITIES CAREER LADDER AFSCS 54130G, 54150G, 54170G, --ETC(U)  
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6 **MISSILE FACILITIES CAREER LADDER**  
AFSCs 54130G, 54150G, 54170G, AND 54190.

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USAF OCCUPATIONAL MEASUREMENT CENTER  
LACKLAND AFB TEXAS 78236

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## PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Missile Facilities career ladder, AFSCs 54130G, 54150G, 54170G, and 54190. The project was directed by USAF Program Technical Training, Volume 2, dated July 1975. Authority for conducting specialty surveys is contained in AFM 35-2, paragraph 2-1. Computer outputs from which this report was produced are available for use by operating and training officials.

The survey instrument was developed by Capt James N. Eustis, Inventory Development Specialist. Capt Rodger D. Ballentine and Mr. James B. Keeth analyzed the survey data and wrote the final report. This report has been reviewed and approved by Major Thomas J. O'Connor, Chief, Operations/Support Career Ladders Analysis Section, Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas, 78236.

Computer programs for analyzing the occupational data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Because volume reproduction of this report is not feasible, distribution is made on a loan basis to air staff sections and major commands upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

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## SUMMARY OF RESULTS

1. Survey Coverage: Inventory booklets were administered to 341 job incumbents holding DAFSC 541XOG. The results of this report were based on 67 percent of the career ladder members.
2. Method of Assignment: Seventy-two percent of the total sample and 82 percent of the 3- and 5-skill level personnel surveyed were assigned to the career ladder after completing resident technical training. Conversely, 66 percent of the 7-skill level personnel were assigned after retraining or conversion from another AF specialty.
3. Relative Job Satisfaction: Job interest was comparable to other AF specialties surveyed during 1975, with 67 percent of the 541XOG incumbents indicating their job was at least fairly interesting. In addition, incumbents perceived a fairly high utilization of talents and training. Seventy-three percent felt their talents and 79 percent felt their training were utilized at least fairly well. The reenlistment intentions of these respondents were slightly lower than other career ladders surveyed during 1975. The majority of incumbents with more than 48 months TAFMS indicated an intention to reenlist.
4. Career Ladder Structure: Job analysis revealed several distinct and specialized job groups. Four clusters and three independent job types were identified. Three of these clusters performed primarily in-shop maintenance on either electrical, power production, or environmental control systems. SAC functional managers have instituted several personnel utilization policy changes since these data were collected. These policy changes should reduce the technical specialization noted in this report. The other cluster was composed of supervisors. The three independent job type groups performed the following specialized functions: dispatch maintenance on power production, refrigeration, and electrical systems at the missile site complex; scheduled periodic inspections; and quality control and evaluation duties.
5. Specialty Training Standard: Generally, task performance data supported the majority of STS items. There appeared to be redundancy in the content of STS items covering equipment located in several different support buildings. Performance level codes for STS items covering maintenance on environmental control systems appeared inconsistent with proficiency levels for maintenance on electrical or power production systems. Also, 5- and 7-skill level personnel performed quality control and evaluation and periodic inspection functions not specifically covered by separate STS paragraphs.
6. Assessment of Training: Training provided by Course 3ABR54130G covered the scope of tasks performed by first job incumbents. Task performance of these respondents reflected a relatively low utilization of training in the maintenance and operation of electrical systems. In addition, few first

job incumbents performed tasks related to training on special vehicle environmental control systems, portable air conditioners and the maintenance of the guidance and control cooler repair set and liquid cooling system. A review of the appropriateness of resident training in these areas seems warranted. The specialization of technical task performance by survey respondents should also be considered in relation to the content of resident technical training and OJT.

1. Technical Training - Job incumbents were surveyed to determine the extent of technical training received during the last 12 months. The survey results indicated that the majority of respondents received technical training in the form of on-the-job training (OJT) and formal classroom instruction. The majority of respondents also received technical training in the form of self-study and correspondence courses. The survey results also indicated that the majority of respondents received technical training in the form of on-the-job training (OJT) and formal classroom instruction. The majority of respondents also received technical training in the form of self-study and correspondence courses.

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OCCUPATIONAL SURVEY REPORT  
MISSILE FACILITIES CAREER LADDER  
AFSCs 54130G, 54150G, 54170G, 54190

INTRODUCTION

This is a report of an occupational survey of the Missile Facilities career ladder, AFSCs 54130G, 54150G, 54170G, and 54190, conducted by the Occupational Survey Branch, USAF Occupational Measurement Center, from August 1975 through September 1976.

The report describes: (1) development and administration of the survey instrument; (2) summaries of tasks performed by airmen grouped by skill level, experience level, and similarity of tasks performed; (3) comparisons with current training and career field structure documents; and (4) recommended actions for further study.

INVENTORY DEVELOPMENT AND ADMINISTRATION

The data collection instrument for the occupational survey was USAF Job Inventory AFPT 90-541-249. The inventory booklet was composed of two parts: a background information section in which job incumbents provided information about themselves; and a duty-task list section which assessed the relative amount of time spent on tasks performed in their current jobs. The latter section consisted of 542 tasks grouped under 11 duty headings. Thorough research of publications and directives, personal interviews with 12 subject-matter specialists at one base, and written reviews from 32 experienced missile facilities personnel contributed to the development of the survey instrument.

Consolidated base personnel offices in operational units worldwide received the inventory booklets for administration to 341 job incumbents holding the DAFSCs identified above. Survey administration occurred during January 1976 through March 1976 based upon the January 1976 Uniform Airman Record. After supplying identification and biographical information, incumbents checked and rated the tasks performed in their current job. Tasks were rated on a 9-point scale showing relative time spent on each task compared to all other tasks performed in the current job. The ratings ranged from 1 (very-small-amount time spent) through 5 (about-average time spent) to 9 (very-large-amount time spent). Due to the possibility of omitting one or more important duties or tasks, instructions for completing the inventory urged respondents to write in any duties or tasks not listed. In this survey, there were no significant write-ins.

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TABLE 1  
 PHYSICAL AND CHEMICAL PROPERTIES OF THE POLYMERIZATION OF 2,2,4,4-TETRAHYDRO-3,5-DIHYDROXY-6,6-DIMETHYLO-1,3-DIOXANE (1) AND 2,2,4,4-TETRAHYDRO-3,5-DIHYDROXY-6,6-DIMETHYLO-1,3-DIOXANE (2)

## COMMAND REPRESENTATION IN THE SURVEY SAMPLE

6



## SUMMARY OF BACKGROUND INFORMATION

Each USAF Job Inventory contains a background information section in which the respondent reports information about himself and his job. The following paragraphs summarize this information for the Missile Facilities incumbents surveyed.

### Method of Assignment to Career Ladder

Table 2 reflects the method by which incumbents were assigned to the career ladder. Seventy-two percent of the survey respondents were assigned after completion of resident technical training. Nearly all of the 3- and 5-skill level personnel completed technical training, while 66 percent of the 7-skill level personnel were retrained (43 percent) or converted (23 percent) from another AF specialty.

### Relative Job Satisfaction

Tables 3 and 4 reflect the job interest of respondents by AFMS and DAFSC groups respectively. Overall, the job interest of these incumbents was comparable to data from other AF specialties surveyed during 1975. Sixty-seven percent of the total sample found their job fairly interesting to extremely interesting as compared to 69 percent of incumbents in other specialties surveyed during 1975. As indicated in Table 3, job interest increased with service experience. This trend was also duplicated across DAFSC groups, with personnel in DAFSCs 54130G and 54150G (primarily first enlistment personnel) indicating lower job interest than 7- and 9-skill level personnel.

### Perceived Utilization of Talents and Training

Overall, survey respondents perceived a fairly high utilization of talents and training. Seventy-three percent felt their talents and 79 percent felt their training were utilized at least fairly well. Perceived utilization of talents increased as service experience and skill level increased. It is noteworthy that 92 percent of the 7-skill level personnel felt their talents were utilized fairly well or better (see Table 5).

With respect to training, 86 percent of DAFSC 54130G personnel felt their training was being utilized at least fairly well. This was the highest percentage noted by any of the DAFSC groups (see Table 5). There does not appear to be a relationship between perceived utilization of training and either skill level or service experience. However, there was an increase in the percent of incumbents in their third enlistment and 7-skill level personnel who felt their training was used excellently or perfectly.

### Reenlistment Intentions

Table 6 presents the reenlistment intentions of survey respondents. In general, the reenlistment intentions of 541X0G personnel were slightly lower than those of other career ladders surveyed during 1975. Slightly less than half of all respondents (47 percent) indicated they would probably reenlist, compared to 55 percent for the 1975 sample. The majority of personnel beyond their first enlistment indicated an intention to reenlist. As shown in Table 7, these reenlistment intentions roughly parallel the actual reenlistment rates for 541X0G personnel.

### Equipment Used

Tables 8 and 9 list the equipment used by 20 percent or more of the total sample and first two enlistment groups. Also included in Table 8 is the percentage of personnel who indicated they service lead-acid or cadmium batteries and perform maintenance on Launch Control Support Building (LCSB) equipment. Generally, a slightly higher percentage of personnel in their second enlistment utilized equipment than members in their first enlistment. The percentage of incumbents who utilized equipment declined after the second enlistment. Equipment used by less than 20 percent of the survey respondents is listed in Table 10.



TABLE 2  
METHOD OF ASSIGNMENT TO CAREER LADDER  
(PERCENT RESPONDING)

	TOTAL SAMPLE (N=258)	3-LEVEL (N=70)	5-LEVEL (N=145)	7-LEVEL (N=35)	9-LEVEL (N=4)
COMPLETED RESIDENT TECHNICAL TRAINING	72	93	77	17	25
RECLASSIFIED W/O COMPLETING TECHNICAL TRAINING OR OJT	5	2	3	17	25
DIRECT DUTY ASSIGNMENT (DDA) FROM BASIC TRAINING TO OJT WITHOUT BYPASS TEST	1	-	1	-	-
BEING CONVERTED FROM ANOTHER AF SPECIALTY, WITHOUT TRAINING BY CLASSIFICATION BOARD ACTION	7	-	6	23	-
BEING RETRAINED FROM ANOTHER SPECIALTY	13	4	10	43	50
REENLISTING AFTER PRIOR SERVICE IN USAF, OR FROM ANOTHER BRANCH OF SERVICE	1	-	2	-	-
NOT REPORTED	1	1	1	-	-

TABLE 3

JOB INTEREST BY AFMS GROUPS  
(PERCENT RESPONDING)

	1ST JOB 6-24 MOS AFMS (N=118)	ENLISTMENT GROUPS		
		1ST (N=182)	2ND (N=38)	CAREER (N=38)
I FIND MY JOB:				
INTERESTING	68	62	76	84
SO-SO	19	22	11	13
DULL	13	16	13	3

TABLE 4

JOB INTEREST BY DAFSC GROUPS  
(PERCENT RESPONDING)

	TOTAL SAMPLE (N=258)	DAFSC 54130G (N=70)	DAFSC 54150G (N=145)	DAFSC 54170G (N=35)	DAFSC 54190 (N=4)	OTHER AF SPECIALTIES* (N=21,107)
		66	62	83	100	69
I FIND MY JOB:						
INTERESTING	67	66	62	83	100	69
SO-SO	19	16	24	11	-	15
DULL	14	18	14	6	-	16

\* Based on surveys of 35 career ladders collected in 1975



PERCEIVED UTILIZATION OF TALENTS AND TRAINING BY DAFSC GROUPS  
(PERCENT RESPONDING)

	TOTAL SAMPLE (N=258)	3-LEVEL (N=70)	5-LEVEL (N=145)	7-LEVEL (N=35)	9-LEVEL (N=4)
<b>JOB UTILIZES MY TALENTS:</b>					
VERY LITTLE OR NOT AT ALL	27	33	30	8	-
FAIRLY WELL TO VERY WELL	64	61	64	66	50
EXCELLENTLY OR PERFECTLY	9	6	6	26	50
<b>JOB UTILIZES MY TRAINING:</b>					
VERY LITTLE OR NOT AT ALL	21	14	24	17	25
FAIRLY WELL TO VERY WELL	72	79	71	66	50
EXCELLENTLY OR PERFECTLY	7	7	5	17	25

TABLE 6  
REENLISTMENT INTENTIONS OF 541XOG SAMPLE  
(PERCENT RESPONDING)

	<u>TOTAL SAMPLE (N=258)</u>	<u>1ST TERM (N=182)</u>	<u>2ND TERM (N=38)</u>	<u>CAREER* (N=23)</u>	<u>OTHER AF SPECIALTIES** (N=10,439)</u>
NO OR PROBABLY NO	53	62	34	9	45
YES OR PROBABLY YES	47	38	66	91	55

\* Included in this category are personnel in their 3rd or 4th enlistment.

\*\* Based on surveys of career ladders collected in 1975.

TABLE 7  
ACTUAL REENLISTMENTS FOR 541XOG PERSONNEL  
(JULY 1975 - MARCH 1976)

	<u>1ST TERM</u>	<u>2ND TERM</u>	<u>CAREER</u>
ELIGIBLE TO REENLIST	9	7	10
REENLISTED	3	6	10
REENLISTMENT RATE	33%	86%	100%



TABLE 8

TEST EQUIPMENT USED BY 20 PERCENT OR MORE  
OF THE SURVEY RESPONDENTS  
(PERCENT RESPONDING)

	TOTAL SAMPLE (N=258)	1ST ENLIST (N=182)	2ND ENLIST (N=38)
PSM-6	89	92	95
MULTIMETER	84	88	84
DIGITAL VOLTMETER	72	75	88
FREQUENCY METER	61	65	58
RELAY TEST SET	54	58	55
MEGOhmmETER	51	51	71
PSM 37	42	43	50
VIBROGROUND	41	36	68
FREQUENCY GENERATOR	39	41	45
SERVICE LEAD-ACID BATTERIES	74	77	79
SERVICE NICKLE-CADMIUM BATTERIES	39	40	50
PERFORM MAINTENANCE ON LCSB EQUIPMENT	64	67	71

TABLE 9  
EQUIPMENT USED BY 20 PERCENT OR MORE  
OF SURVEY RESPONDENTS  
(PERCENT RESPONDING)

	TOTAL SAMPLE (N=258)	1ST ENLIST (N=182)	2ND ENLIST (N=38)
STANDARD TOOL BOXES	74	78	82
SOLDERING IRONS	71	73	84
AMMETERS	66	68	71
ELECTRIC DRILLS	66	65	84
CALIBRATED THERMOMETERS	64	68	66
HYDROMETERS	63	64	74
TORQUE WRENCHES	63	64	68
CRIMPING TOOLS	58	59	68
IMMERSION HEATERS	55	60	53
BATTERY CHARGERS	55	53	76
MANOMETERS	48	44	58
VOLTMETERS	45	47	50
PORTABLE PROTECTIVE RELAY TEST SETS	44	48	40
MEGGERS	43	44	48
THICKNESS GAUGES	40	38	47
FREQUENCY COUNTERS	38	40	45
FLOW METERS	36	39	34
OVERHEAD HOISTS	36	37	42
SCOTT AIR PACKS	31	31	40
EMERGENCY SUMP PUMP KITS	28	29	42
NITROGEN CYLINDERS	22	20	29



TABLE 10

TEST AND OTHER EQUIPMENT USED BY LESS THAN 20 PERCENT  
OF SURVEY RESPONDENTS  
(PERCENT RESPONDING)

EQUIPMENT	TOTAL SAMPLE (N=258)
GAS WELDER AND CUTTING EQUIPMENT	19
OXYGEN DEFICIENCY METERS	16
G & C CODING TEST BENCH	15
MAGOMETERS	15
STROBOSCOPE	14
TENSION GAUGES	14
VULCANIZERS	14
PNEUMATIC DRILLS	13
STROBES	12
REGULATED POWER SUPPLIES	11
PORTABLE VAPOR DETECTORS	10
DISC GRINDERS	9
INSTRUMENT CALIBRATION STANDARDS	8
PAINT SPRAY GUNS AND AIR COMPRESSOR	8
TRACTORS, 10 TON	8
BECKMAN EXPLOSIVE ANALYZERS	7
MOTOR GENERATOR ALIGNMENT AND DIAL INDICATOR	7
TORQUE SCREWDRIVERS	7
WIRE WRAP KITS	7
BRINE CHILLER TEST STAND	5
CYCLOMETER	5
DEPTH MICROMETERS	4
GRAM SCALES	3
MILLIONMMETERS	3
SAND BLASTERS	3
DE-SCALERS	2
OSCILLOSCOPE	2
RATIO TRANSFORMERS	2
GAS CYLINDER SEMITRAILERS	1
TERMINATORS	1
DE-POINTERS	0
EXPLOSIVE CIRCUITRY TEST SETS	0
FIBER OPTICS	0
ME-6	0
MISSILE ALIGNMENT KITS	0
MISSILE ERECTOR-TRANSPORTER BOOMS	0
SPECTRUM ANALYZERS	0

## CAREER LADDER STRUCTURE

The job structure of the Minuteman Missile Facilities career ladder was determined on the basis of similarity of the tasks performed by incumbents in the field, independent of DAFSC or other background factors. The products of the computerized hierarchical grouping procedure used in this part of the analysis helped identify: (1) tasks which tend to be performed by the same incumbents; (2) the breadth or narrowness of jobs performed in the field; and (3) tasks and background characteristics used in distinguishing among different jobs within the career field. Structure analysis therefore provided an objective indication of the amount of task overlap among the various groups of incumbents included in the survey sample.

Based on task overlap, the best division among jobs performed by the 258 incumbents included in the structure analysis is illustrated in Figure 1. Represented in Figure 1 are clusters and independent job types. Descriptive titles for the groups in Figure 1 are listed below. Clusters are made up of two or more job types that are similar to each other in some respect. The independent job types perform tasks which do not overlap to a significant degree with any other job group.

The following "Job Clusters" (C) and "Independent Job Types" (T) were identified for the 541XOG/90 respondents:

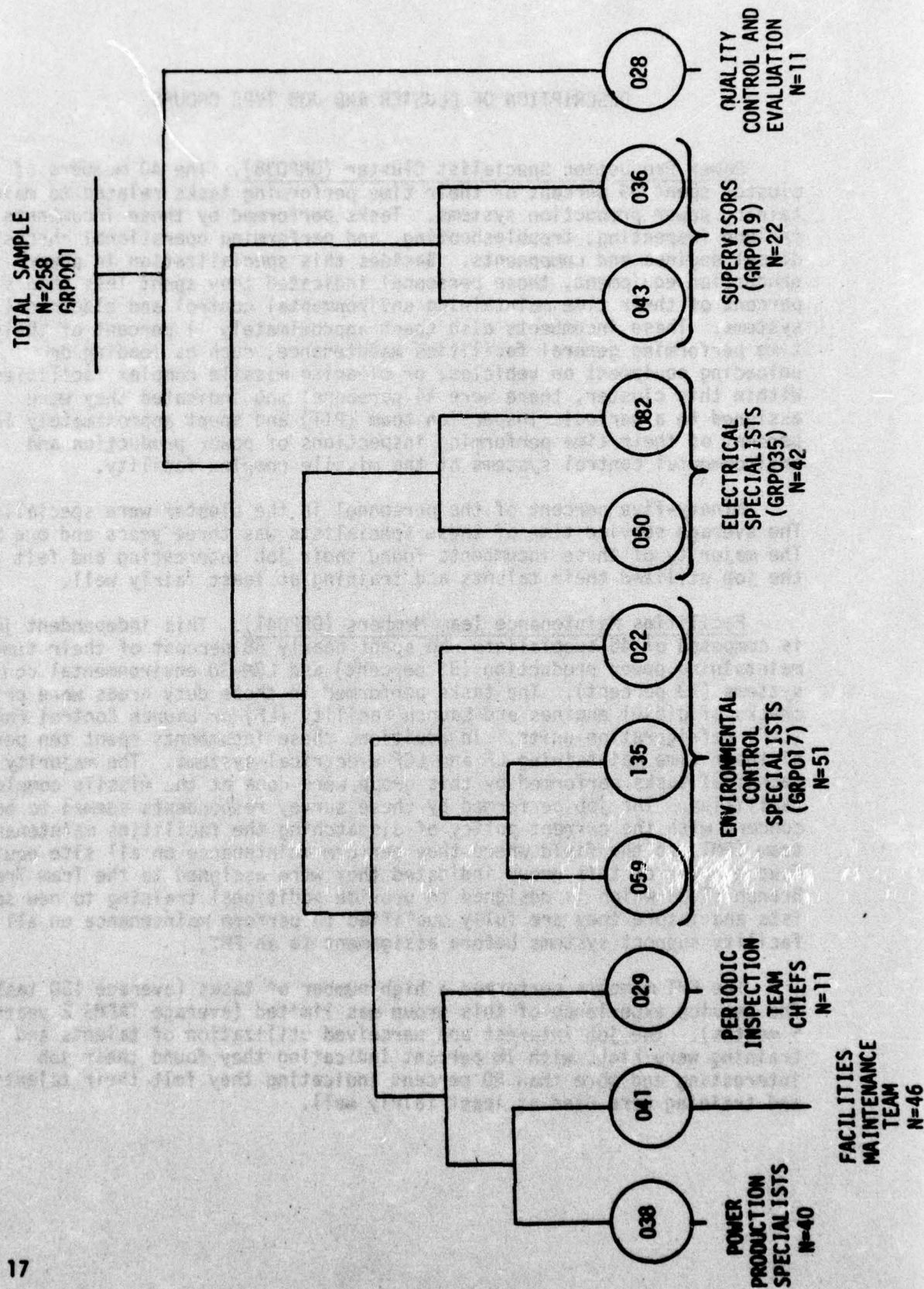
- GRP038 - Power Production Specialists (C)
- GRP041 - Facilities Maintenance Team Members (T)
- GRP029 - Periodic Inspection Team Chiefs (T)
- GRP017 - Environmental Control Specialists (C)
- GRP035 - Electrical Specialists (C)
- GRP019 - Supervisors (C)
- GRP028 - Quality Control and Evaluation Technicians (T)

A summary of representative tasks and background information for all reported job groups can be found in Appendix A.

Sixty percent of the incumbents in the sample were noted to perform jobs roughly equivalent to those described in the four job clusters. An additional 26 percent of the incumbents were included in the three independent job types. The remaining 14 percent of the sample included members whose jobs were not associated with any of these major divisions of the career ladder. The common task performance and background characteristics of these "isolates" were limited.



WPNUTEMAN MISSILE FACILITIES CAREER LADDER STRUCTURE (AFSC 541X06/90)



## DESCRIPTION OF CLUSTER AND JOB TYPE GROUPS

Power Production Specialist Cluster (GRP038). The 40 members of this cluster spent 69 percent of their time performing tasks related to maintaining power production systems. Tasks performed by these incumbents include inspecting, troubleshooting, and performing operational checks of diesel engines and components. Besides this specialization in power production equipment, these personnel indicated they spent less than six percent of their time maintaining environmental control and electrical systems. These incumbents also spent approximately 11 percent of their time performing general facilities maintenance, such as loading or unloading equipment on vehicles, or cleaning missile complex facilities. Within this cluster, there were 14 personnel who indicated they were assigned to a periodic inspection team (PIT) and spent approximately 13 percent of their time performing inspections of power production and environmental control systems at the missile complex facility.

Ninety-five percent of the personnel in the cluster were specialists. The average service time of these specialists was three years and one month. The majority of these incumbents found their job interesting and felt that the job utilized their talents and training at least fairly well.

Facilities Maintenance Team Members (GRP041). This independent job type is composed of 46 specialists who spent nearly 68 percent of their time maintaining power production (35 percent) and LGM-30 environmental control systems (33 percent). The tasks performed in these duty areas were primarily checks of diesel engines and Launch Facility (LF) or Launch Control Facility (LCF) refrigeration units. In addition, these incumbents spent ten percent of their time maintaining LF and LCF electrical systems. The majority of technical tasks performed by this group were done at the missile complex facilities. The job performed by these survey respondents seemed to be in concert with the current policy of dispatching the facilities maintenance team (FMT) to the field where they perform maintenance on all site equipment. Four members of this group indicated they were assigned to the Team Training Branch (TTB) which is designed to provide additional training to new specialists and insure they are fully qualified to perform maintenance on all facility support systems before assignment to an FMT.

The FMT members performed a high number of tasks (average 180 tasks). The service experience of this group was limited (average TAFMS 2 years 5 months). The job interest and perceived utilization of talents and training were high, with 78 percent indicating they found their job interesting and more than 80 percent indicating they felt their talents and training were used at least fairly well.



Periodic Inspection Team Chiefs (GRP029). The majority of the 11 members of this group were Periodic Inspection Team (PIT) Chiefs. Most of these incumbents possessed the 5-skill level and had more service experience (average TAFMS was 7 years 2 months) than other groups. These incumbents concentrated their time on fewer tasks (average 104), primarily involving scheduled inspections of power generation and distribution systems, and LF or LCF environmental control systems (ECS). In addition, these incumbents performed many related inspections, tests, and functional checks of power production, refrigeration, and electrical equipment at the missile complex facility. These incumbents also spent 12 percent of their time performing supervisory duties.

Environmental Control Specialist Cluster (GRP017). This cluster is composed of 51 personnel, the majority of who (88 percent) possess a 3- or 5-skill level. The members of this group indicated they spent 56 percent of their time maintaining LGM-30 Environmental Control Systems (ECS) and 14 percent performing in-shop maintenance on LGM-30 guidance and control liquid cooling systems. The remainder of their time was spent in general missile facilities maintenance (11 percent); preparing and maintaining forms, records, and reports (five percent); performing periodic inspections (four percent); and supervisory duties (seven percent). The specialization in tasks related to ECS is even further illustrated by the fact that these incumbents spent only two percent of their time maintaining power production and electrical systems. A similar specialization on power production systems was noted for the first cluster (GRP038). The majority of these respondents found their job interesting (57 percent) and felt their talents (71 percent) and training (81 percent) were utilized at least fairly well in their job.

Within this cluster, there were three groups of jobs. The first (GRP059) was formed by 18 members who performed in-shop maintenance and dispatched to the missile site to check and maintain LF and LCF refrigeration equipment. The second (GRP135) performed fewer tasks. The job performance of GRP135 was limited to in-shop maintenance. The concentration of time on shop maintenance is illustrated by a 16 percent increase in time spent performing in-shop maintenance on LGM-30 guidance and control liquid cooling systems. The third (GRP022) was composed of 24 members who were primarily assigned to a PIT. These incumbents performed ECS maintenance tasks related to the periodic inspection of LF or LCF refrigeration equipment. This function accounted for nearly 75 percent of these incumbents' job time.

Electrical Specialist Cluster (GRP035). The 42 members of this cluster spent nearly 54 percent of their time on tasks related to maintaining LGM-30 electrical systems. Again, the specialization noted in previous clusters was evident for these incumbents, with only nine percent of their time spent maintaining power production and environmental control systems.

Differences in the tasks performed by incumbents within this cluster were primarily related to the type of support van (RV-G and C or Payload Transporter) used by the wing to which they were assigned. Sixty-two percent of these incumbents found their job interesting and more than 67 percent perceived the job as utilizing their talents and training at least fairly well.

Within this cluster, there were two groups of jobs. The primary difference between these jobs was related to whether or not personnel performed exclusively in-shop maintenance or were also dispatched to the missile site to maintain LF or LCF electrical systems. The first group (GRP050) performed fewer tasks and worked primarily on support equipment such as elevator work cages, electrical hoists and cranes, and storage batteries. The second group (GRP082) maintained the electrical support equipment and also dispatched to the missile complex facility to service LF and LCF electrical distribution systems, waste disposal system components, and storage batteries. This second group contained a higher percentage of 5- and 7-skill level personnel who had more supervisory responsibilities.

Supervisor Cluster (GRP019). The majority of the 22 members of this cluster held DAFSC 54170G and their average TAFMS was 14 years. Nearly all the incumbents indicated high job satisfaction and felt their job utilized their talents and training at least fairly well. The task performance of this group was limited to an average of 76 tasks. These incumbents spent 85 percent of their time performing supervisory tasks and only eight percent of their time maintaining power production, electrical, and refrigeration systems.

Within this cluster there were two job groups. The first job group (GRP043) was composed of 12 NCOICs of various shops including PIT, power production, electrical, FMT, and refrigeration. Direct supervision and training were important elements of their jobs, as 83 percent indicated they supervised an average of four subordinates. The job interest and perceived utilization of talents and training was very high for these incumbents. The second job group (GRP036) was composed of nine NCOICs of Facility Maintenance Teams or Branches. The members of this group performed an average of only 45 tasks and concentrated a large amount of time maintaining forms, records, and reports, and less time training subordinates. Although the perceived utilization of talents was high for these incumbents, the utilization of training was relatively low, possibly because 89 percent of this group were converted or retrained from another specialty.

Quality Control and Evaluation Technicians (GRP028). The 11 members of this independent job type were predominantly technicians who performed the specialized functions of quality control evaluators and field supervisors. These individuals performed few tasks (average was 40), with 46 percent of their time spent inspecting and evaluating maintenance procedures, work areas, equipment, etc. In addition, these incumbents spent 22 percent of



their time preparing and maintaining forms, records, and reports. The job performance of these incumbents did not include supervision. All individuals in this group found the job interesting and felt that their talents and training were used at least fairly well.

#### Comparison of Time Spent in Duties By Clusters

In July 1972, the electrical, power production, and refrigeration functions performed by personnel in AFSCs 542XOG, 543XO, and 545XO were consolidated for the Minuteman missile. As a result, the Minuteman Facilities Specialist/Technician (AFSC 541XOG) was created. As illustrated in Table 11, three cluster groups identified in this report specialize in a duty area parallel to the three AFSCs from which the career ladder originated. The high percent of time spent maintaining one of the facility systems (power production, environmental control, or electrical) and the small time spent in the other two systems by each cluster is noteworthy. Sixty percent of the survey respondents grouped by this functional analysis were fairly evenly divided between these job clusters. Also included in Table 11 is the concentration of time spent on duties by the Supervisor Cluster. It is interesting to note that these incumbents concentrate most of their time strictly on supervisory areas and spend very little time on technical functions.

Several refrigeration, power production, and electrical shop NCOICs at different bases were contacted to determine how 541XOG personnel were assigned and utilized in these three technical areas. These supervisors indicated that 3-skill level personnel were assigned to one shop and remained there unless reassigned to a PIT or FMT. However, recent changes in the career ladder have reduced the technical specialization. Since the survey data were collected, manning has been reduced in the refrigeration, power production, and electrical shops and increased for the FMT and PIT. The result of these manning changes was to increase the number of personnel performing dispatch maintenance and periodic inspection tasks related to all three technical areas. In addition, the power production and electrical shops have been combined, thereby increasing the opportunity for overlapping technical task performance in this new shop.

Although these initiatives will reduce the number of personnel who perform in only one technical area, steps must be taken to insure that personnel who work in a shop are rotated periodically to insure currency and proficiency in all three systems. Maintaining knowledge of all systems seems especially critical for promotion testing, considering the diverse task performance noted for 541XOG incumbents. The technical specialization noted in this functional analysis and recent personnel utilization changes warrant careful consideration by classification and training managers.

TABLE 11

## PERCENT TIME SPENT IN DUTIES BY CLUSTER GROUPS

DUTY AREAS	SUPERVISORS (N=22)	ENVIRONMENTAL CONTROL SPECIALISTS (N=51)	ELECTRICAL SPECIALISTS (N=42)	POWER PRODUCTION SPECIALISTS (N=40)
A ORGANIZING AND PLANNING	19	1	3	1
B DIRECTING AND IMPLEMENTING	21	1	2	1
C INSPECTING AND EVALUATING	14	3	4	2
D TRAINING	13	2	4	2
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	18	5	11	6
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	5	12	14	11
G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	1	56	2	2
H PERFORMING IN-SHOP MAINTENANCE ON LGM-30 GUIDANCE AND CONTROL LIQUID COOLING SYSTEMS	-	14	-	-
I PERFORMING PERIODIC INSPECTION TEAM (PIT) FUNCTIONS	-	4	-	6
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	4	1	54	4
K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	5	1	6	65



## ANALYSIS OF DAFSC GROUPS

The job performed by Missile Facilities Specialists (DAFSCs 54130G, 54150G) and Technicians (DAFSC 54170G) is diverse. Survey results indicate performance of a broad spectrum of tasks. All tasks in the job inventory were performed by some respondents and only 14 tasks were performed by more than 50 percent of the total sample. Of these 14 common tasks, all but three relate to general missile facilities functions, such as loading or unloading equipment on vehicles and cleaning shop facilities. Beside these general upkeep tasks, only servicing or checking lead-acid batteries and completing or reviewing maintenance data collection record forms and repairable item processing tag forms were performed by a majority of the respondents.

The current 541X0 specialty descriptions contained in AFM 39-1 cover Titan II, Minuteman, and Bomarc weapon systems. The broad duties and responsibilities outlined in these documents cover the basic job performance of all skill level groups. Because the job descriptions cover several weapon systems, some duties included are not performed by 541X0G personnel.

In this section, task performance by each skill level will be described except at the 9-skill level, where the sample of superintendents (DAFSC 54190) was insufficient for detailed analysis.

### Skill Level Groups

Table 12 shows the relative amount of time spent by each skill level group on tasks within duties. For the total sample, the largest amount of time (59 percent) was spent maintaining power production, environmental control, and electrical systems (Duties G, H, J and K). The next most time consuming duties (21 percent) included general missile facilities and administrative functions (Duties E and F). The remaining time was almost evenly divided among the other duty areas.

The division of duty time by 3- and 5-skill level personnel is very similar to the total sample. At the 3-skill level, less time is spent performing supervisory functions (Duties A through E). In addition, 3-skill level incumbents spent slightly more time performing general missile facilities functions and maintaining technical systems.

At the 5-skill level, there was a slight increase in the time spent performing supervisory duties (see Table 12, Duties A through E). This finding is supported by the fact that 15 percent more 5-levels than 3-levels indicated they supervise. Incumbents with DAFSC 54150G performed more

tasks on the average than 3-skill levels (114 versus 87) and spent less time on each task. Both 3- and 5-skill level personnel performed a wide variety of tasks and the only common tasks performed by more than 50 percent of both groups were the same as those 14 tasks described for the total sample. The scope of the job performed by 5-skill level personnel was broader and included more time on inspection, administration, and training. This difference is reflected in Table 13, which shows tasks with the greatest difference in percent members performing between 3- and 5-level personnel.

Although the concentration of time on tasks and the average number of tasks performed were similar for 5- and 7-skill level personnel, there was a dramatic change in the tasks performed by 7-levels. The percentage of DAFSC 54170G personnel and the time spent performing managerial/supervisory tasks increased while technical and general maintenance task performance decreased. Sixty percent of the technicians indicated they supervised an average of five personnel. Table 14 illustrates the change in task performance by showing the tasks with the greatest difference in percent members performing for 5- and 7-skill level groups. This change can also be seen by comparing the total time spent by specialists and technicians in duty areas (see Table 12). The largest increase in time spent was in Duty C, "Inspecting and Evaluating". Tasks in this duty include inspecting and evaluating work areas, equipment, maintenance policies or procedures, and inspection reports.

#### Work Center and Equipment Differences

Differences were noted in the work center to which the members of skill level groups were assigned. A higher percentage of the 54130G group were assigned to a Facilities Maintenance Team or Refrigeration Shop. More 54150G personnel were assigned to a Periodic Inspection Team and Electrical or Power Production Shops. Further, at the 7-skill level, more personnel were assigned to the Quality Control and Evaluation Section.

The utilization of equipment varied between DAFSC groups. A greater percentage of DAFSC 54130G than 54150G personnel utilize: relay test sets, flow meters, manometers, Scott air packs, and thickness gauges. At the 5-skill level, more personnel use vibrogrounds and crimping tools. There was a general decline in the percentage of 7-skill level personnel using equipment (e.g. digital voltmeters, megohmmeters, multimeters, hydrometers, and soldering irons). The only equipment utilized by a higher percentage of 7- than 5-skill level personnel were thickness gauges and gas welder and cutting equipment.



TABLE 12

PERCENT TIME SPENT ON TASKS IN DUTY AREAS BY DAFSC GROUPS

DUTY	TOTAL SAMPLE (N=258)	DAFSC 54130G (N=70)	DAFSC 54150G (N=145)	DAFSC 54170G (N=35)	DAFSC 54190 (N=4)
A ORGANIZING AND PLANNING	3	1	2	10	26
B DIRECTING AND IMPLEMENTING	4	1	3	11	29
C INSPECTING AND EVALUATING	5	1	4	16	21
D TRAINING	4	2	4	8	11
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	9	6	8	17	11
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	12	17	12	6	2
G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	19	26	19	9	-
H PERFORMING IN-SHOP MAINTENANCE ON LGM-30 GUIDANCE AND CONTROL LIQUID COOLING SYSTEMS	3	5	2	3	-
I PERFORMING PERIODIC INSPECTION TEAM (PIT) FUNCTIONS	4	1	5	2	-
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	15	17	16	6	-
K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	22	23	25	12	-

TABLE 13  
TASKS WHICH MOST CLEARLY DISTINGUISH 3-SKILL AND 5-SKILL LEVEL PERSONNEL \*  
(PERCENT PERFORMING)

	TASK	DAFSC		DIFFERENCE
		54130G (N=70)	54150G (N=145)	
D83	DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	10	52	42
D78	CONDUCT ON-THE-JOB TRAINING (OJT)	13	50	37
E97	ANNOTATE OR ATTACH ELECTRICAL DANGER-MEN AT WORK FORMS (AF FORM 267)	26	57	31
E131	RESEARCH TOS, OR TO INDEXES, OR OTHER TECHNICAL PUBLICATIONS	24	53	29
E114	COMPLETE OR ATTACH REPARABLE ITEM PROCESSING TAG FORMS (AFTO FORM 350)	36	63	27
E102	COMPLETE DANGER FORMS (AF FORM 1492)	26	50	23
F152	PERFORM ROUTINE OR DAILY INSPECTIONS OF WORK AREAS	29	52	23

\* Only tasks performed by more than 50 percent of 5-skill level personnel are included in this table.



TABLE 14

TASKS WHICH MOST CLEARLY DISTINGUISH 5-SKILL AND 7-SKILL LEVEL PERSONNEL \*  
(PERCENT PERFORMING)

	TASK	DAFSC 54150G (N=145)	DAFSC 54170G (N=35)	DIFFERENCE
C70	REVIEW CORRESPONDENCE	12	80	68
B33	DRAFT CORRESPONDENCE OR REPORTS	10	69	59
C62	EVALUATE UTILIZATION OF PROTECTIVE EQUIPMENT	12	69	57
A3	CONDUCT OR PARTICIPATE IN STAFF MEETINGS	18	71	53
C52	EVALUATE COMPLIANCE WITH MAINTENANCE POLICIES OR PROCEDURES	10	63	53
B22	COMPILE INFORMATION FOR REPORTS OR STAFF STUDIES	8	60	52
C50	ANALYZE OR EVALUATE MAINTENANCE OR INSPECTION REPORTS	13	60	47
E133	REVIEW OR EVALUATE TECHNICAL ORDER SYSTEM PUBLICATION IMPROVEMENT REPORT FORMS (AFTO FORM 22)	8	54	46
D87	PREPARE CHANGES TO JOB PROFICIENCY GUIDES (JPG)	10	54	44
D84	EVALUATE SPECIALTY TRAINING STANDARDS (STS), PLANS OF INSTRUCTION (POI), OR COURSE CHARTS	10	54	44
E121	MAINTAIN PERSONNEL EVALUATION RECORDS	10	54	44
B25	DIRECT COMPLIANCE WITH MAINTENANCE POLICIES OR PROCEDURES	26	69	43
D85	MAINTAIN TRAINING RECORDS	23	63	40
E132	REVIEW MAINTENANCE DATA COLLECTION REPORTS	20	60	40
A14	PLAN OR REVIEW SAFETY PROGRAMS	18	57	39
A18	REVIEW POLICY CHANGES IN UTILIZATION OF PERSONNEL OR EQUIPMENT	15	54	39
A5	DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	33	71	38

\* Only tasks performed by more than 50 percent of 7-skill level personnel are included in this table.

## ANALYSIS OF AFMS GROUPS

In this survey sample, 71 percent of the respondents were in their first enlistment and 86 percent had 96 months or less TAFMS. Data from incumbents with more than 96 months TAFMS were combined into a career enlistment group. Table 15 shows the percent time spent on tasks within duties for first, second, and career enlistment groups.

The pattern of job performance as time in service increased generally paralleled that described for skill level progression in the ANALYSIS OF DAFSC GROUPS section. The percent time spent in duties and the tasks performed by personnel in their first enlistment closely parallel that of the specialist skill level. The similarity is not coincidental, as 94 percent of the 3-skill level and 76 percent of the 5-skill level respondents were in their first enlistment. In the second enlistment group, a moderate change in job performance was noted. The time spent in supervisory duties increased, especially in duty areas E, "Preparing and Maintaining Forms, Records, and Reports," and C, "Inspecting and Evaluating". Although less dramatic, this change in job performance was similar to that noted between the specialist and technician skill level. The trend toward increased supervisory/managerial and decreased technical task performance continued beyond the second enlistment (see Table 15).



TABLE 15

## PERCENT TIME SPENT ON TASKS IN DUTY AREAS BY ENLISTMENT GROUPS

DUTY	1ST ENLIST (N=182)	2ND ENLIST (N=38)	CAREER * (N=38)
A ORGANIZING AND PLANNING	1	5	14
B DIRECTING AND IMPLEMENTING	1	7	14
C INSPECTING AND EVALUATING	2	10	16
D TRAINING	3	5	9
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	7	14	14
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	14	9	6
G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	23	10	7
H PERFORMING IN-SHOP MAINTENANCE ON LGM-30 GUIDANCE AND CONTROL LIQUID COOLING SYSTEMS	4	1	1
I PERFORMING PERIODIC INSPECTION TEAM (PIT) FUNCTIONS	3	5	2
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	16	18	4
K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	26	16	13

\* Included in this group are the survey respondents with more than 96 months TAFMS

## COMPARISON OF SPECIALTY TRAINING STANDARD (STS) WITH SURVEY RESULTS

The basic 541X0G STS, dated 15 February 1973, was compared against task performance data for 3-, 5-, and 7-skill level groups. Generally, task performance data supported the majority of items. As noted previously, incumbents' technical task performance was generally limited to one of three areas (power production, environmental control, or electrical systems). Approximately 20-40 percent of the survey respondents performed tasks related to STS items covering one of these areas. Also, this analysis reconfirmed the fact that fewer technicians performed technical tasks and more 5- and 7-skill level personnel performed supervisory, training, and administrative functions.

Evaluation of the training document, however, revealed several areas which warrant further discussion. There appears to be redundancy in the content of STS items. Similar equipment items are listed under paragraphs covering different launch facility support buildings. For example, item 12f covers the Launch Facility distribution panels and main junction box. Paragraph 15c also covers this equipment located in the Launch Control Equipment Building. Other examples include paragraphs 11c versus 14b, and 21b versus 14f. In addition, paragraphs 11d, 15b and 16c cover the standby power system in the Launch Facility, Launch Control Equipment Building and Launch Control Facility Support Building, respectively, while switchgear maintenance (the electrical component referred to in all these items) is covered separately in paragraph 29. It seems prudent to review the current STS for the purpose of eliminating redundancy by consolidating duties requiring similar knowledge and/or proficiency under one item, even though the work is performed in several different support buildings. If there are differences in accessing or maintaining equipment because of location, this information might be covered within a consolidated paragraph.

Within the current document, there were several items for which related inventory tasks were performed by a relatively small percentage of the incumbents at any skill level (see Table 16). In addition, tasks related to STS paragraphs 20b through 20g and 21c involving gasoline engine and gasoline fuel system maintenance were performed by less than 15 percent of specialists and technicians. The low performance of tasks related to these STS paragraphs should be considered in a future review of the performance codes in this document.

On the other hand, there were two areas in which tasks were performed by a DAFSC group which did not appear to be specifically covered by the STS. The first area concerns the inspection and evaluation of maintenance procedures, workspace, equipment, supplies, etc (tasks C50-C70). These



tasks were performed by 29 percent or more of the 7-skill level incumbents surveyed (except the evaluation of nuclear safety programs). The second area involves scheduled periodic inspections of LF or LCF power distribution, generation, and environmental control systems (tasks I317-I337). These tasks were performed by at least 20 percent of the 5- and 7-skill level personnel. Presently, the inspection function is covered as a part of the maintenance of each type of equipment. There does not appear to be a specific section which covers periodic inspections. Consideration should be given to adding two separate paragraphs which cover these quality control and periodic inspection functions.

During this analysis, it was noted that a preponderance of STS items covering the maintenance of environmental control systems (paragraphs 30-39) were coded 4c for the 7-skill level. Items covering electrical or power production systems, however, were predominantly coded 3c at this level. In addition, there was a definite decline in the percentage of 7-skill level personnel performing technical tasks across all three systems. These factors should be considered to insure accurate performance level codes throughout the STS.

TABLE 16

STS ITEMS PERFORMED BY LESS THAN 20 PERCENT OF DAFSC GROUPS

	STS ITEM	HIGHEST PERCENTAGE OF ANY SKILL LEVEL GROUP PERFORMING RELATED TASKS
8g	WS-133 GUIDANCE AND CONTROL (G&C) LIQUID COOLING BENCH TEST AND REPAIR SET	19
8h	WS-133 PAYLOAD TEST SET COOLANT UNIT AND COOLANT MONITOR PANEL (AN/DRM-25)	3
17b	TROUBLESHOOT AND REPLACE COMPONENTS OF THE TRANSPORTER- ERECTOR ELECTRICAL SYSTEM	17
18g	TROUBLESHOOT AND REPAIR LF MOTOR-GENERATOR SET AND ASSOCIATED EQUIPMENT	16
28c	FLASH EXCITER FIELDS	13
28d	REMOVE, REPLACE, AND ALIGN EXCITERS AND ALTERNATORS	9
29i	INSPECT AND CLEAN VOLTAGE REGULATORS	17
39b	INSPECT AND TROUBLESHOOT VEHICULAR HEATING AND AIR CONDITIONING EQUIPMENT	14
39c	OPERATE AND PERFORM OPERATOR MAINTENANCE ON VEHICULAR HEATING AND AIR CONDITIONING EQUIPMENT	17



## ASSESSMENT OF TRAINING

Technical training for the 541X0G career ladder is provided by Course 3ABR54130G. This course consists of 19 weeks of training in the fundamentals of electricity and refrigeration; operation and maintenance of the electrical control system for the WS133 hydraulic and pneumatic systems, water and sewage systems, air conditioning and cooling systems, electrical power generation systems, and power distribution systems; use of tools and technical publications; and safety and security procedures. This course was developed as a composite of courses 3ABR54230G, 3ABR54330, and 3ABR54530. Training for upgrading to the 5- and 7-skill level is accomplished through on-the-job training (OJT) utilizing the study references listed in the STS and Command Job Proficiency Guides.

The criterion objectives outlined in the 15 May 1974 Plan of Instruction (POI) for Course 3ABR54130G were assessed in the manner similar to the STS. The percentage of first job incumbents who performed tasks related to criterion objectives were reviewed to determine the utilization of training. These data were obtained from 118 incumbents with 6 to 24 months TAFMS who were assigned to the career ladder after completing technical training. Generally, all training on electrical, power production, and refrigeration systems were performed by less than 40 percent of the first job incumbents. Areas of training with notably lower related task performance are summarized in Table 18 and the following paragraphs.

Blocks II through VI of the POI cover training in electrical principles and application of these principles to the operation and maintenance of motors, and electrical systems in support buildings, special vehicles, etc. Data were not available to assess the electrical fundamentals taught in Blocks II and III, except as they are applied to instruction in the maintenance of facility electrical systems outlined in Blocks IV, V, and VI. It is noteworthy that nearly all inventory tasks (Duty J) related to the training provided in Blocks IV through VI were performed by slightly less than 30 percent of the first job group. The only tasks related to this training which were performed by more than 30 percent of this group are listed in Table 17. This finding, although striking, is consistent with the fact that only 22 percent of first job incumbents work in an electric shop and only 16 percent of all respondents were identified as working primarily on electrical systems during structural analysis of the career ladder.

Block VII of the POI outlines training in the fundamental operation and maintenance of engines and power generation equipment. Generally, tasks related to this instruction were performed by 30 percent or more of the first job assignees. Tasks in this area of training related to the operation and maintenance of gasoline engines and fuel systems were performed by less than 30 percent of this group. In addition, less than 23 percent performed tasks related to training in paragraphs 1c, 2d, and 7d of Block VII.

Blocks IX through XII outline training on environmental control systems (ECS). Task performance data were not available to evaluate the theoretical refrigeration principles outlined in Block IX. Blocks X and XI cover training for which related tasks were performed by 30 to 40 percent of the first job group. The only exception noted was for the calibration and adjustment of pneumatic and electric controls (paragraph 3e). Specifically, throttling range adjustment to electrical switches, electrical pneumatic switches, flow alarms, pneumatic electrical switches, restrictors, thermostats, and alarm control system switches were performed by less than 26 percent of this group. Block XII consists of 36 hours of training in the maintenance of ECS for special vehicles and guidance and control cooler systems. All tasks related to this block of instruction were performed by less than 30 percent of first job incumbents. Within this area, inventory tasks related to the maintenance of special vehicle ECS and portable air conditioners (Block XII, paragraphs 1 and 2) were performed by less than 13 percent of first job incumbents. In addition, all tasks related to the maintenance of the guidance and control cooler repair set and liquid cooling systems (Block XII, paragraphs 3 and 4) were performed by less than 20 percent of this group.

In the preceding paragraphs, several areas of training were identified for which related task performance of recent school graduates was relatively low. A review of the appropriateness of providing resident training in these areas seems warranted. An analysis of the career ladder structure revealed rather limited job performance of incumbents as refrigeration, electrical, or power production specialists, whereas the POI covers the full scope of the job performed by first job incumbents. In such a heterogeneous career ladder, rather than provide broad based training, it seems more appropriate to provide training tailored to the specialized job performance of incumbents. Suggest careful review of these findings during the Minuteman Training/Scheduling Working Group scheduled for November 1976.



TABLE 17

TASKS RELATED TO MAINTAINING LGM-30 ELECTRICAL SYSTEMS  
PERFORMED BY 30 PERCENT OR MORE OF FIRST JOB INCUMBENTS

TASK		PERCENT PERFORMING
K521	SERVICE OR CHECK LEAD-ACID BATTERIES	56
J383	REMOVE AND REPLACE ELECTRICAL COMPONENTS SUCH AS LIGHT BULBS OR SWITCHES	55
J356	CHECK OR SERVICE LF OR LCF STORAGE BATTERY SETS	44
J366	PERFORM FUNCTIONAL CHECKS OF ELEVATOR WORK CAGES	36
J362	OPERATE PORTABLE HEATERS	31
J367	PERFORM FUNCTIONAL CHECKS OF LF OR LCF EMERGENCY STORAGE BATTERY CHARGERS	31
J386	REMOVE AND REPLACE GROUND STRAPS	31

TABLE 18

TASKS RELATED TO SECTIONS OF THE POI (COURSE 3ABR54130G) PERFORMED BY  
LESS THAN 30 PERCENT OF FIRST JOB INCUMBENTS

POI SECTION	HOURS	RELATED TASKS	PERCENT PERFORMING 1ST JOB (N=118)
<u>BLOCKS II-VI:</u> ELECTRICAL PRINCIPLES AND ELECTRICAL SYSTEM MAINTENANCE	210	INVENTORY TASKS IN DUTY J (J338-J437)	1-55*
<u>BLOCK VII</u>			
1c EXPLAIN HOW TO TIME IGNITION SYSTEM TO THE ENGINE	**	K525 TIME IGNITION SYSTEMS	12
2d PERFORM CYLINDER COMPRESSION TEST	**	K488 PERFORM COMPRESSION CHECKS ON DIESEL OR GASOLINE ENGINES	8
3 OPERATION AND MAINTENANCE OF FUEL SYSTEMS	8	K495 REBUILD CARBURETORS K496 REBUILD FUEL PUMPS K499 REMOVE OR REPLACE CARBURETORS K524 TIME FUEL PUMPS K528 TROUBLESHOOT DAY TANK FLOAT SWITCH SYSTEMS K541 TROUBLESHOOT GASOLINE ENGINE FUEL SYSTEMS	4 3 6 20 23 7
7d OPERATION AND MAINTENANCE OF ALTERNATORS, EXCITERS, AND VOLTAGE REGULATORS	8		
(1) INSPECTING AND ADJUSTING TENSION OF THE BRUSH HOLDERS	**	K440 ADJUST OR INSPECT TENSION OF BRUSHES ON ALTERNATORS OR EXCITERS K441 ADJUST TENSION ON BRUSH HOLDERS K481 INSPECT SPRING TENSION OF BRUSH HOLDERS	23 20 18
(2) INSPECTING AND CLEANING THE SLIP RINGS AND COMMUTATORS	**	J359 INSPECT OR CLEAN SLIP RINGS OR COMMUTATORS	15
(4) FLASHING THE EXCITER FIELD	**	J357 FLASH EXCITER FIELDS	11

\* For information about tasks performed by more than 30 percent of these incumbents, see the Assessment of Training narrative and Table 17.

\*\* Hours not specified in the POI



TABLE 18 (CONT'D)

TASKS RELATED TO SECTIONS OF THE POI (COURSE 3ABRS4130G) PERFORMED BY  
LESS THAN 30 PERCENT OF FIRST JOB INCUMBENTS

POI SECTION	HOURS	RELATED TASKS	PERCENT PERFORMING 1ST JOB (N=118)
<b>BLOCK VIII</b>			
4d CHECK OUT PROTECTIVE RELAYS BY OPERATING PROTECTIVE RELAY TEST SET	3	K447 CALIBRATE PROTECTIVE RELAY DEVICES K485 OPERATE OR TEST SR-51 RELAY TEST SETS	21 22
<b>BLOCK X AND XI</b>			
3e CALIBRATE AND ADJUST PNEUMATIC AND ELECTRICAL CONTROLS OF THE LF OR LCF ECS	**	G210 PERFORM SENSITIVITY ADJUSTMENTS TO ELECTRICAL SWITCHES G223 PERFORM SET POINT ADJUSTMENTS FOR LF OR LCF MONITOR AND ALARM CONTROL SYSTEM COMPONENTS G224 PERFORM THROTTLING RANGE ADJUSTMENTS ON ELECTRICAL SWITCHES G225 PERFORM THROTTLING RANGE ADJUSTMENTS ON ELECTRICAL PNEUMATIC SWITCHES G226 PERFORM THROTTLING RANGE ADJUSTMENTS ON FLOW ALARMS G227 PERFORM THROTTLING RANGE ADJUSTMENTS ON PNEUMATIC ELECTRICAL SWITCHES G228 PERFORM THROTTLING RANGE ADJUSTMENTS ON RESTRICTORS G229 PERFORM THROTTLING RANGE ADJUSTMENTS ON THERMOSTATS G230 PERFORM THROTTLING RANGE ADJUSTMENTS FOR LF OR LCF MONITOR AND ALARM CONTROL SYSTEM SWITCHES	29 20 19 26 22 26 20 23 18

\*\* Hours not specified in the POI

TABLE 18 (CONT'D)

TASKS RELATED TO SECTIONS OF THE POI (COURSE 3ABR541306) PERFORMED BY  
LESS THAN 30 PERCENT OF FIRST JOB INCUMBENTS

POI SECTION		HOURS	RELATED TASKS	PERCENT PERFORMING 1ST JOB (N=118)
<b>BLOCK XII</b>				
1	OPERATION AND MAINTENANCE OF VEHICLE ECS	11		
1b	EXPLAIN OPERATION OF THE TRANSPORTER ERECTOR ECS	1	G176 ADJUST TRANSPORTER ERECTOR AND TRANSPORTER ERECTOR TRACTOR ECS COMPONENTS G200 PERFORM FUNCTIONAL CHECKS OF TRANSPORTER ERECTOR AND TRANSPORTER ERECTOR TRACTOR ECS G209 PERFORM SCHEDULED INSPECTIONS OF TRANSPORTER ERECTOR AND TRANSPORTER ERECTOR TRACTOR ECS G260 REMOVE OR REPLACE TRANSPORTER ERECTOR AND TRANSPORTER ERECTOR TRACTOR ECS COMPONENTS G285 TROUBLESHOOT TRANSPORTER ERECTOR AND TRANS- PORTER ERECTOR TRACTOR ECS	9 13 9 7 9
1c	EXPLAIN OPERATION OF REENTRY VEHICLE- GUIDANCE AND CONTROL VAN ECS	1	G173 ADJUST REENTRY VEHICLE-GUIDANCE AND CONTROL (RV-G AND C) VAN ECS COMPONENTS G196 PERFORM FUNCTIONAL CHECKS OF RV-G AND C VAN ECS G207 PERFORM SCHEDULED INSPECTIONS OF RV-G AND C VAN ECS G256 REMOVE OR REPLACE RV-G AND C VAN ECS COMPONENTS G281 TROUBLESHOOT RV-G AND C VAN ECS	8 8 8 6 8
1g	INSPECT AND TROUBLESHOOT PAYLOAD TRANSPORTER ECS	2	G204 PERFORM SCHEDULED INSPECTIONS OF PAYLOAD TRANSPORT ECS VAN UNITS G253 REMOVE OR REPLACE PAYLOAD TRANSPORT ECS VAN UNIT COMPONENTS G254 REMOVE OR REPLACE PAYLOAD TRANSPORT ECS VAN UNITS G279 TROUBLESHOOT PAYLOAD TRANSPORT ECS VAN UNITS	9 9 8 9



TABLE 18 (CONT'D)  
TASKS RELATED TO SECTIONS OF THE POI (COURSE 3ABR54130G) PERFORMED BY  
LESS THAN 30 PERCENT OF FIRST JOB INCUMBENTS

POI SECTION	HOURS	RELATED TASKS	PERCENT PERFORMING 1ST JOB (N=118)
<u>BLOCK XII (CONT'D)</u>			
1h OPERATE AND PERFORM AN OPERATIONAL CHECK- OUT OF PAYLOAD TRANSPORTER ECS	2	G171 ADJUST PAYLOAD TRANSPORT ECS VAN UNIT COMPONENTS G193 PERFORM FUNCTIONAL CHECKS OF PAYLOAD TEST SETS G194 PERFORM FUNCTIONAL CHECKS OF PAYLOAD TRANSPORT ECS VAN UNITS	12 2 10
2 OPERATION AND MAINTNANCE OF THE PORTABLE AIR CONDITIONERS	5	G172 ADJUST PORTABLE ATR CONDITIONER UNTI (ACU) COMPONENTS G195 PERFORM FUNCTIONAL CHECKS OF PORTABLE ACU G205 PERFORM SCHEDULED INSPECTIONS OF PORTABLE ACU G255 REMOVE OR REPLACE PORTABLE ACU COMPONENTS G280 TROUBLESHOOT PORTABLE ACU	13 12 13 8 11
3 MAINTNANCE OF GUIDANCE SECTION COOLER TEST REPAIR SET	8	INVENTORY TASKS IN DUTY H (H287-H316)	8-20
4 MAINTNANCE OF GUIDANCE AND CONTROL SECTION LIQUID SYSTEM COOLER	20		

## CONCLUSION

- ✓ 1. The majority of incumbents surveyed specialized in the maintenance of either electrical, power production, or environmental control systems. Based on task performance data, the content of resident technical training, OJT, and supporting documents should be reviewed to insure training tailored to the specialized job performance of career ladder members.
- ✓ 2. Recent personnel utilization changes may reduce the technical specialization noted. Any reduction in job specialization since these data were collected could be determined by resurveying the career ladder after approximately two years.



**APPENDIX A**

GROUP ID NUMBER AND TITLE: GRP038 - Power Production Specialists

PERCENT OF SAMPLE: 16

AVERAGE TAFMS: 3 yrs 1 mo

DAFSC DISTRIBUTION: 54130G (13%), 54150G (80%), 54170G (5%)

AVERAGE GRADE: 3.5

AMOUNT OF SUPERVISION: 13% supervised an average of 2 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 102

EXPRESSED JOB INTEREST: Dull (17%), So-So (25%), Interesting (58%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	32%	68%
TRAINING:	32%	68%

TIME SPENT ON DUTIES:

DUTY

AVERAGE PERCENT TIME  
SPENT BY ALL MEMBERS

K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	65
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	11
I PERFORMING PERIODIC INSPECTION TEAM (PIT) FUNCTIONS	6
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	6
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	4

FIVE REPRESENTATIVE TASKS:

K486 OPERATIONALLY CHECK DIESEL ENGINES  
K457 CLEAN EXTERIOR SURFACES OF ENGINES  
K473 INSPECT OR TEST ENGINE COOLING SYSTEMS  
K452 CHANGE ENGINE LUBRICATING OIL  
K458 CLEAN FUEL FILTERS ON ENGINES

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE):

Frequency Counter  
Portable Protective Relay Test Set  
Thickness Gauges



GROUP ID NUMBER AND TITLE: GRP041 - Facilities Maintenance Team Members

PERCENT OF SAMPLE: 18

AVERAGE TAFMS: 2 yrs 5 mos

DAFSC DISTRIBUTION: 54130G (43%), 54150G (57%)

AVERAGE GRADE: 3.2

AMOUNT OF SUPERVISION: 17% supervised an average of 1 subordinate

AVERAGE NUMBER OF TASKS PERFORMED: 180

EXPRESSED JOB INTEREST: Dull (13%), So-So (9%), Interesting (78%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	20%	80%
TRAINING:	11%	89%

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	35
G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	33
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	10
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	9

FIVE REPRESENTATIVE TASKS:

F153 PERFORM SITE PENETRATION PROCEDURES  
K470 INSPECT OR TEST DIESEL ENGINE IMMERSION HEATERS  
K479 INSPECT OR TEST ENGINE RADIATORS  
G163 ADJUST LF OR LCF BRINE CHILLER UNIT COMPONENTS  
G162 ADJUST LF OR LCF AIR CONDITIONING UNIT COMPONENTS

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE):

Frequency Generator  
Vibroground  
Voltmeter  
Emergency Sump Pump Kit  
Flow Meter  
Frequency Counter

GROUP ID NUMBER AND TITLE: GRP029 - Periodic Inspection Team Chiefs

PERCENT OF SAMPLE: 4

AVERAGE TAFMS: 7 yrs 2 mos

DAFSC DISTRIBUTION: 54130G (9%), 54150G (73%), 54170G (18%)

AVERAGE GRADE: 4.5

AMOUNT OF SUPERVISION: 46% supervised an average of 6 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 104

EXPRESSED JOB INTEREST: Dull (9%), So-So (45%), Interesting (46%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	45%	55%
TRAINING:	36%	64%

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	27
I PERFORMING PERIODIC INSPECTION TEAM (PIT) FUNCTIONS	17
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	14
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	14
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	9

FIVE REPRESENTATIVE TASKS:

F153 PERFORM SITE PENETRATION PROCEDURES  
I327 PERFORM 360 DAY SCHEDULED INSPECTIONS OF LF OR LCF POWER DISTRIBUTION SYSTEMS  
I322 PERFORM 180 DAY SCHEDULED INSPECTIONS OF POWER GENERATION SYSTEMS  
J412 TEST LF OR LCF GROUNDING WITH VIRBROGROUNDS  
E106 COMPLETE OR REVIEW BATTERY PERIODIC INSPECTION RECORD FORMS (AFTO FORM 430)

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE):

Vibroground  
Thickness Gauges



GROUP ID NUMBER AND TITLE: GRP017 - Environmental Control Specialists

PERCENT OF SAMPLE: 20

AVERAGE TAFMS: 3 yrs 4 mos

DAFSC DISTRIBUTION: 54130G (29%), 54150G (59%), 54170G (12%)

AVERAGE GRADE: 3.4

AMOUNT OF SUPERVISION: 4% supervised an average of 6 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 102

EXPRESSED JOB INTEREST: Dull (14%), So-So (29%), Interesting (57%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	29%	71%
TRAINING:	18%	81%

TIME SPENT OF DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	56
H PERFORMING IN-SHOP MAINTENANCE ON LGM-30 GUIDANCE AND CONTROL LIQUID COOLING SYSTEMS	14
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	11
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	5

FIVE REPRESENTATIVE TASKS:

G185 PERFORM FUNCTIONAL CHECKS OF LF OR LCF AIR CONDITIONING UNITS  
G186 PERFORM FUNCTIONAL CHECKS OF LF OR LCF BRINE CHILLER UNITS  
G163 ADJUST LF OR LCF BRINE CHILLER UNIT COMPONENTS  
G162 ADJUST LF OR LCF AIR CONDITIONING UNIT COMPONENTS  
G215 PERFORM SENSITIVITY ADJUSTMENTS TO THERMOSTATS

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE):

G & C Cooling Test Bench  
Flow Meter  
Manometer

GROUP ID NUMBER AND TITLE: GRP059 - Refrigeration Shop (Dispatch) Specialists

PERCENT OF SAMPLE: 7

AVERAGE TAFMS: 5 yrs

DAFSC DISTRIBUTION: 54130G (17%), 54150G (55%), 54170G (28%)

AVERAGE GRADE: 3.9

AMOUNT OF SUPERVISION: 11% supervised an average of 6 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 141

EXPRESSED JOB INTEREST: Dull (17%), So-So (22%), Interesting (61%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	22%	78%
TRAINING:	22%	78%

TIME SPENT ON DUTIES:

DUTY

AVERAGE PERCENT TIME  
SPENT BY ALL MEMBERS

G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	50
H PERFORMING IN-SHOP MAINTENANCE ON LGM-30 GUIDANCE AND CONTROL LIQUID COOLING SYSTEMS	20
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	9
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	6

FIVE REPRESENTATIVE TASKS:

G186 PERFORM FUNCTIONAL CHECKS OF LF OR LCF BRINE CHILLER UNITS  
H297 PERFORM OPERATIONAL CHECKS OF G AND C LIQUID COOLING BENCH TEST  
AND REPAIR SETS  
H293 EVACUATE OR PURGE REFRIGERATION SYSTEMS  
G168 ADJUST LF OR LCF VENTILATION SYSTEM THERMOSTATS  
G167 ADJUST LF OR LCF VENTILATION SYSTEM DAMPERS OR DAMPER OPERATORS

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE):

G & C Cooling Test Bench  
Flow Meter  
Gas Welder & Cutting Equipment  
Manometer  
Nitrogen Cylinders



GROUP ID NUMBER AND TITLE: GRP135 - Refrigeration Shop Specialists

PERCENT OF SAMPLE: 3

AVERAGE TAFMS: 1 yr 6 mos

DAFSC DISTRIBUTION: 54130G (63%), 54150G (37%)

AVERAGE GRADE: 3.0

AMOUNT OF SUPERVISION: None

AVERAGE NUMBER OF TASKS PERFORMED: 90

EXPRESSED JOB INTEREST: So-So (12%), Interesting (88%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	37%	63%
TRAINING:	12%	88%

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	43
H PERFORMING IN-SHOP MAINTENANCE ON LGM-30 GUIDANCE AND CONTROL LIQUID COOLING SYSTEMS	37
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	13
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	4

FIVE REPRESENTATIVE TASKS:

H295 PERFORM FUNCTIONAL CHECKOUTS OF G AND C ELECTRONIC CONTROL  
AMPLIFIER (ECA)  
H296 PERFORM FUNCTIONAL CHECKOUTS OF G AND C LIQUID COOLING BENCH  
TEST AND REPAIR SETS  
H297 PERFORM OPERATIONAL CHECKS OF G AND C LIQUID COOLING BENCH  
TEST AND REPAIR SETS  
H309 SERVICE G AND C LIQUID COOLING BENCH TEST AND REPAIR SETS  
G279 TROUBLESHOOT PAYLOAD TRANSPORT ECS VAN UNITS

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE)

G & C Cooling Test Bench  
PSM 37  
Voltmeter  
Flow Meter

Gas Welder and Cutting Equipment  
Manometer

GROUP ID NUMBER AND TITLE: GRP022 - Refrigeration Periodic Inspection Team

PERCENT OF SAMPLE: 9

AVERAGE TAFMS: 2 yrs 9 mos

DAFSC DISTRIBUTION: 54130G (25%), 54150G (71%), 54170G (4%)

AVERAGE GRADE: 3.3

AMOUNT OF SUPERVISION: None

AVERAGE NUMBER OF TASKS PERFORMED: 76

EXPRESSED JOB INTEREST: Dull (16%), So-So (42%), Interesting (42%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	32%	68%
TRAINING:	17%	83%

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
G MAINTAINING LGM-30 ENVIRONMENTAL CONTROL SYSTEMS	66
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	13
I PERFORMING PERIODIC INSPECTION TEAM (PIT) FUNCTIONS	9
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	4

FIVE REPRESENTATIVE TASKS:

G185 PERFORM FUNCTIONAL CHECKS OF LF OR LCF AIR CONDITIONING UNITS  
I320 PERFORM 180 DAY SCHEDULED INSPECTIONS OF LF OR LCF ECS  
G186 PERFORM FUNCTIONAL CHECKS OF LF OR LCF BRINE CHILLER UNITS  
G183 PERFORM FUNCTIONAL CHECK OF LF EMERGENCY AIR CONDITIONING UNITS  
G162 ADJUST LF OR LCF AIR CONDITIONING UNIT COMPONENTS

EQUIPMENT PRIMARILY USED BY THIS GROUP (50% OR MORE):

Manometer



GROUP ID NUMBER AND TITLE: GRP035 - Electrical Specialists

PERCENT OF SAMPLE: 16

AVERAGE TAFMS: 3 yrs 2 mos

DAFSC DISTRIBUTION: 54130G (21%), 54150G (74%), 54170G (5%)

AVERAGE GRADE: 3.4

AMOUNT OF SUPERVISION: 12% supervised an average of 6 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 93

EXPRESSED JOB INTEREST: Dull (17%), So-So (21%), Interesting (62%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	33%	67%
TRAINING:	29%	71%

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	54
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	14
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	11
K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	6

FIVE REPRESENTATIVE TASKS:

J416 TROUBLESHOOT ELEVATOR WORK CAGES  
J377 PERFORM FUNCTIONAL CHECKS OF SUPPORT VAN ELECTRICAL HOIST/CRANES  
J355 CHECK OR SERVICE BATTERY SHOP STORAGE BATTERIES  
F149 PERFORM ELECTRICAL SOLDERING  
J383 REMOVE OR REPLACE ELECTRICAL COMPONENTS SUCH AS LIGHT BULBS OR SWITCHES

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE):

Vibroground  
Voltmeter  
Meggers

Overhead Hoist  
Vulcanizer

GROUP ID NUMBER AND TITLE: GRP050 - Electrical Shop Specialists

PERCENT OF SAMPLE: 10

AVERAGE TAFMS: 2 yrs 3 mos

DAFSC DISTRIBUTION: 54130G (30%), 54150G (70%)

AVERAGE GRADE: 3.1

AMOUNT OF SUPERVISION: 4% supervised an average of 4 subordinates

EXPRESSED JOB INTEREST: Dull (11%), So-So (26%), Interesting (63%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	33%	67%
TRAINING:	30%	70%

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
J MAINTAINING LGM-30 ELECTRICAL SYSTEMS	57
F PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	16
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	10
K MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	5

FIVE REPRESENTATIVE TASKS:

J416 TROUBLESHOOT ELEVATOR WORK CAGES  
J377 PERFORM FUNCTIONAL CHECKS OF SUPPORT VAN ELECTRICAL HOIST/CRANES  
J437 WRAP AND VULCANIZE CABLES  
J402 REMOVE OR REPLACE SUPPORT VAN ELECTRICAL HOIST-CRANE COMPONENTS  
J411 REMOVE OR REPLACE WIRING ON SUPPORT VANS

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE)

Vibroground	Overhead Hoist
Voltmeter	Vulcanizer
Meggers	



GROUP ID NUMBER AND TITLE: GRP082 - Electrical Shop (Dispatch) Specialists

PERCENT OF SAMPLE: 6

AVERAGE TAFMS: 4 yrs 9 mos

DAFSC DISTRIBUTION: 54130G (7%), 54150G (80%), 54170G (13%)

AVERAGE GRADE: 3.8

AMOUNT OF SUPERVISION: 27% supervised an average of 7 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 143

EXPRESSED JOB INTEREST: Dull (27%), So-So (13%), Interesting (60%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	33%	67%
TRAINING:	27%	73%

TIME SPENT ON DUTIES:

DUTY

AVERAGE PERCENT TIME  
SPENT BY ALL MEMBERS

J	MAINTAINING LGM-30 ELECTRICAL SYSTEMS	48
E	PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	13
F	PERFORMING GENERAL MISSILE FACILITIES FUNCTIONS	9
K	MAINTAINING POWER PRODUCTION EQUIPMENT AND SYSTEMS	8

FIVE REPRESENTATIVE TASKS:

J377 PERFORM FUNCTIONAL CHECKS OF SUPPORT VAN ELECTRICAL HOIST/CRANES  
J416 TROUBLESHOOT ELEVATOR WORK CAGES  
E109 COMPLETE OR REVIEW MAINTENANCE DATA COLLECTION RECORD FORMS  
(AFTO FORM 349)  
J395 REMOVE OR REPLACE PAYLOAD TRANSPORTER ELECTRICAL SYSTEM COMPONENTS  
J341 ADJUST LCF ELECTRICAL DISTRIBUTION SYSTEM AND SUBSYSTEM COMPONENTS

EQUIPMENT USED PRIMARILY BY THIS GROUP (50% OR MORE)

PSM 37	Megger
Vibroground	Overhead Hoist
Voltmeter	Vulcanizer
Emergency Sump Pump Kit	

GROUP ID NUMBER AND TITLE: GRP019 - Supervisors

PERCENT OF SAMPLE: 8

AVERAGE TAFMS: 14 yrs

DAFSC DISTRIBUTION: 54130G (9%), 54150G (18%), 54170G (50%), 54190 (18%)

AVERAGE GRADE: 5.8

AMOUNT OF SUPERVISION: 72% supervised an average of 5 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 76

EXPRESSED JOB INTEREST: So-So (18%), Interesting (82%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	9%	91%
TRAINING:	23%	77%

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE PERCENT TIME SPENT BY ALL MEMBERS</u>
B DIRECTING AND IMPLEMENTING	21
A ORGANIZING AND PLANNING	19
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	18
C INSPECTING AND EVALUATING	13
D TRAINING	13

FIVE REPRESENTATIVE TASKS:

A3 CONDUCT OR PARTICIPATE IN STAFF MEETINGS  
C65 INSPECT WORK AREAS OR EQUIPMENT  
B25 DIRECT COMPLIANCE WITH MAINTENANCE POLICIES OR PROCEDURES  
E109 COMPLETE OR REVIEW MAINTENANCE DATA COLLECTION RECORD FORMS  
(AFTO FORM 349)  
D91 REVIEW TRAINING PROGRESS OF INDIVIDUALS



GROUP ID NUMBER AND TITLE: GRP043 - Shop Supervisors

PERCENT OF SAMPLE: 5

AVERAGE TAFMS: 13 yrs 3 mos

DAFSC DISTRIBUTION: 54130G (8%), 54150G (17%), 54170G (67%), 54190 (8%)

AVERAGE GRADE: 5.6

AMOUNT OF SUPERVISION: 83% supervised an average of 4 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 103

EXPRESSED JOB INTEREST: So-So (17%), Interesting (83%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	8%	92%
TRAINING:	17%	83%

TIME SPENT ON DUTIES:

DUTY

AVERAGE PERCENT TIME  
SPENT BY ALL MEMBERS

B DIRECTING AND IMPLEMENTING	19
A ORGANIZING AND PLANNING	16
D TRAINING	16
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	16
C INSPECTING AND EVALUATING	13

FIVE REPRESENTATIVE TASKS:

A16	PLAN OR SCHEDULE WORK ASSIGNMENTS
B25	DIRECT COMPLIANCE WITH MAINTENANCE POLICIES OR PROCEDURES
B24	COUNSEL SUBORDINATES ON PERSONAL PROBLEMS
A17	REVIEW PERSONNEL REQUIREMENTS
D91	REVIEW TRAINING PROGRESS OF INDIVIDUALS

GROUP ID NUMBER AND TITLE: GRP036 - NCOIC Facilities Maintenance  
Team/Branch

PERCENT OF SAMPLE: 3

AVERAGE TAFMS: 15 yrs 9 mos

DAFSC DISTRIBUTION: 54150G (22%), 54170G (33%), 54190 (45%)

AVERAGE GRADE: 6.2

AMOUNT OF SUPERVISION: 78% supervised an average of 6 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 45

EXPRESSED JOB INTEREST: So-So (11%), Interesting (89%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	11%	89%
TRAINING:	33%	67%

TIME SPENT ON DUTIES:

DUTY

AVERAGE PERCENT TIME  
SPENT BY ALL MEMBERS

B DIRECTING AND IMPLEMENTING	24
A ORGANIZING AND PLANNING	24
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	20
C INSPECTING AND EVALUATING	13
D TRAINING	11

FIVE REPRESENTATIVE TASKS:

A3 CONDUCT OR PARTICIPATE IN STAFF MEETINGS  
C65 INSPECT WORK AREAS OR EQUIPMENT  
A19 SCHEDULE LEAVES OR PASSES  
B35 ORIENT NEWLY ASSIGNED PERSONNEL  
B23 COUNSEL SUBORDINATES ON JOB PROGRESSION OR CAREER DEVELOPMENT



GROUP ID NUMBER AND TITLE: GRP028 - Quality Control and Evaluation Technicians

PERCENT OF SAMPLE: 4

AVERAGE TAFMS: 9 yrs 10 mos

DAFSC DISTRIBUTION: 54150G (36%), 54170G (64%)

AVERAGE GRADE: 5

AMOUNT OF SUPERVISION: 9% supervised an average of 3 subordinates

AVERAGE NUMBER OF TASKS PERFORMED: 40

EXPRESSED JOB INTEREST: Interesting (100%)

	<u>Little or Not At All</u>	<u>At Least Fairly Well</u>
PERCEIVED UTILIZATION OF TALENTS:	9%	91%
TRAINING:	-	100%

TIME SPENT ON DUTIES:

DUTY

AVERAGE PERCENT TIME  
SPENT BY ALL MEMBERS

C INSPECTING AND EVALUATING	46
E PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	22
B DIRECTING AND IMPLEMENTING	11
A ORGANIZING AND PLANNING	10

FIVE REPRESENTATIVE TASKS:

C50 ANALYZE OR EVALUATE MAINTENANCE ON INSPECTION REPORTS  
C52 EVALUATE COMPLIANCE WITH MAINTENANCE POLICIES OR PROCEDURES  
C59 EVALUATE UNIT SAFETY PRACTICES OR PROCEDURES  
C65 INSPECT WORK AREAS OR EQUIPMENT  
C67 PERFORM IN PROGRESS OR END ITEM INSPECTIONS